

**PERFORMANCE OF REINFORCED CONCRETE WALL
FOUNDATION CONNECTION UNDER LATERAL STATIC LOAD**

By

AIDA KARTINI BINTI SAIDIN

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DECLARATION BY THE CANDIDATE

I Aida Kartini binti Saidin(2009997327) confirm that the work in this report is my own work and the appropriate credit has been given where reference has been made to the work of others researchers.

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Student Name :Aida Kartini binti Saidin

Student ID :2009997327

Date :4th June 2012

ABSTRACT

Steel fabric reinforced concrete wall foundation is considered as an innovative construction method in Malaysia to reduce weight on foundation. This type of wall foundation may require sequential analysis in making an effective product that gives advantages in all aspects and gives better performance. This research involved laboratory experimental work on three reinforced concrete wall foundation samples. The wall is reinforced with steel fabric of size B7 and concrete Grade 30 mix with steel fabric. The wall foundation samples were tested under lateral static load with the load applied upper of the wall height wall. The support condition was considered as fixed at the lower end foundation. The ultimate load sustained by the samples is 30kN with maximum displacement of 35mm before failure. From the observation, there are failure cracks along the connection and at the side of the connection that influence the strength of the connection itself. Wall foundation 1 started to crack when load reach the value of 5kN with maximum deflection of 15.44mm while for sample 2, wall foundation started to crack when applied load reach the value of 5.97kN with maximum deflection of 10.37mm. Lastly, for sample 3, wall foundation started to crack when applied load reach the value of 8.58kN with maximum deflection of 20.13mm. From research the maximum bending stress for sample 1, 2 and 3 is 3.75 kN/mm², 7.36 kN/mm² and 9.72 kN/mm² respectively. Modulus of elasticity for sample 1, 2 and 3 are 8.78862 x10⁻³ N/mm², 9.9571 x10⁻³ N/mm² and 0.1180 x10⁻³ N/mm² respectively. Therefore, maximum modulus of elasticity usually occurs at connection of wall foundation. Besides that, lateral static load has affect on the compressive strength, fracture energy and ductility thus inhabit the crack propagation of the reinforced concrete wall foundation.

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